



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/727,910	11/30/2000	William David Graham	24919A	3697
22889	7590	12/31/2003	EXAMINER	
OWENS CORNING 2790 COLUMBUS ROAD GRANVILLE, OH 43023			CONLEY, SEAN E	
			ART UNIT	PAPER NUMBER
			1744	

DATE MAILED: 12/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/727,910

Applicant(s)

GRAHAM ET AL.

Examiner

Sean E Conley

Art Unit

1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) 21-41 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 November 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse claims 1-20 (Group I) in the response filed October 14, 2003 is acknowledged. The applicant has indicated in the response to the restriction requirement that the traversal is on the ground(s) that "the subject matter of all claims is sufficiently related and that a thorough search for the subject matter of any one." This is not found persuasive because, as stated in the restriction requirement mailed on September 25, 2003, the four groups of inventions subject to restriction all have patentably different and distinct embodiments and have acquired the separate status and searches in the art and can be supported by separate patents as divided by applicants. Additionally, the applicant has admitted that the subject matter of groups I and II are independent and patentably distinct. The restriction requirement mailed September 25, 2003 can be found below.

The requirement is still deemed proper and is therefore made FINAL.

Claim Objections

2. Claim 4 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Specifically, claim 4 recites, "wherein the unexposed surface is installed adjacent to the exposed surface of

the second exterior panel." This limitation does not further limit the structure of the exterior panel of claim 1 and furthermore, the limitation is directed to the intended use of the exterior panel and is not given patentable weight.

3. Claim 8 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 8 recites 0.1 to about 1.0 gram per square foot whereas claim 7, from which claim 8 depends, recites 0.5 to about 2.5 gram per square foot. The range of claim 8 actually contains a lower limit that is broader than claim 7 from which it depends.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3, 14-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Marshall et al. (U.S. Pat. 3,932,143).

Regarding claims 1 and 14-20, Marshall et al. discloses roofing elements or wall boards that are treated to prevent damage from the sun and also inhibit algae growth. Examples of roofing materials disclosed are asphalt or wood shingles and concrete or

clay tiles (see column 1, lines 1-30). Referring to figure 1, the building element (10) consists of a base element (12) having a pair of distinct coatings (14) and (16). The base element (12) can be formed of any existing building material which can be used to form exterior siding or roofing elements for houses and the like. The base element (12) is coated by flame-spraying metal to one side (18). Examples of metals disclosed are aluminum, zinc, brass and copper. These coatings protect the base (12) against fire and also prevent degradation from ultraviolet radiation from the sun and prevent formation and growth of algae (see figure 1 and column 2, line 26 to column 3, line 60). It is well known that roofing materials such as shingles have a butt end and Marshall et al. teaches an exterior panel which is a shingle that is coated with an algaecide.

The terms "exposed surface" and "unexposed surface" are not given patentable weight because they are directed to the intended use of the exterior panel.

Furthermore, step c) of claim 1 recites "to inhibit algae growth on a second exposed surface provided on a second adjacent panel". This limitation is directed to the intended use of the panel and therefore is not given patentable weight.

6. Claims 1, 5 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Sadler (U.S. Pat. 3,484,267).

Sadler discloses an exterior panel having an effective amount of algaecide such as copper and zinc provided on the surface in order to inhibit algae growth on the panel. The exterior panel that is coated with the algaecide is a roofing shingle (see column 2, lines 10-30 and column 3, lines 9-50).

The terms "exposed surface" and "unexposed surface" are not given patentable weight because they are directed to the intended use of the exterior panel.

Furthermore, step c) of claim 1 recites "to inhibit algae growth on a second exposed surface provided on a second adjacent panel". This limitation is directed to the intended use of the panel and therefore is not given patentable weight.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

Art Unit: 1744

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 1-3, 5, 14, 15, 17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's admitted state of the prior art.

Regarding claim 1, the applicant has admitted on pages 1 and 2 of the specification that it is well known to treat exterior panels with an algaecide in order to inhibit the growth of algae. More specifically, the applicant recites "another problem with past methods is that it is very costly to coat an entire surface of a shingle or siding panel, especially with coatings containing copper or zinc metal compounds." Thus, the applicant has admitted that it is known to coat all surfaces of an exterior panel such as a shingle or siding with an algaecide containing copper or zinc compounds. Furthermore, it is well known that roofing shingles have a butt end and the applicant teaches that it is known to coat the entire surface of a shingle with an algaecide thus anticipating the limitations of claims 2 and 3 of the present invention. Regarding claims 14, 15, 17 and 19, the applicant further recites other examples of exterior panels such as asphalt shingles, cement tiles and siding that employ algaecides provided on the exterior surfaces. The applicant attempts to distinguish between the surfaces of the panel by labeling them as exposed and unexposed. However, these labels are directed to the intended use of the panel and are not given patentable weight and furthermore, the applicant has admitted that it is known to coat all sides of a shingle or siding with an

algaecide. Additionally, step c) of claim 1 recites "to inhibit algae growth on a second exposed surface provided on a second adjacent panel". This limitation is directed to the intended use of the panel and therefore is not given patentable weight.

11. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marshall et al.

Marshall et al. does not teach the specific amount of algaecide that is applied to the exterior panel. It would have been obvious to one having ordinary skill in the art at the time the invention was made to apply an algaecide to an exterior panel in an amount of about 0.1 to 2.5 gram per square foot, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233 (CCPA 1955).

12. Claims 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marshall et al. as applied to claim 1 above, and further in view of Niira, deceased et al. (U.S. Pat 4,938,958) and Cummings et al (U.S. Pat. 6,432,416 B1).

Marshall et al. does not disclose an algaecide comprising a silver containing zeolites in a powder form.

Niira, deceased et al. disclose an antibiotic zeolite that imparts an antibiotic, antifungal and antialgal properties when the zeolite is applied to the surface of an article. The antibiotic zeolite further includes an antibiotic metal such as silver (see col. 2, lines 10-44 and col. 4, line 20 to col. 5, line 20).

Cummings et al. discloses an anti-microbial powder coating that exhibits resistance to bacterial and fungal attack. The powder coating composition is coated on a substrate in order to protect the substrate from bacterial, fungal and even algal growth. Specifically, silver containing zeolites are of particular use as the antimicrobial agent in the powder coating. The powder coating may be sprayed electrostatically onto a metal or nonmetal substrate. Other methods, such as fluidized bed coating methods, thermal spraying and flame spraying may also be used (see col. 1, line 50 to col. 3, line 18).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the copper and zinc metal coatings used by Marshall et al. to inhibit algae growth and replace them with a silver containing zeolite powder coating which is a functionally equivalent alternative means of inhibiting algae growth as taught by Niira, deceased et al. and Cummins et al.

Regarding claims 12 and 13, Marshall et al. does not teach the specific amount of algaecide that is applied to the exterior panel. It would have been obvious to one having ordinary skill in the art at the time the invention was made to apply an algaecide to an exterior panel in an amount of about 0.1 to 2.5 gram per square foot, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233 (CCPA 1955).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean Conley, whose telephone number is (703) 305-2430. Beginning December 16, 2003, the examiners phone number will change to (571) 272-1273. The examiner can normally be reached on Monday-Friday 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Robert Warden, can be reached at (703) 308-2920. The Unofficial fax phone number for this group is (703) 305-7719. The Official fax phone number for this Group is (703) 872-9310. The direct fax number to the examiner is (703)-746-8859. Beginning December 16, 2003, the direct fax to the examiner will change to (571) 273-1273.

When filing a FAX in Technology Center 1700, please indicate in the Header (upper right) "Official" for papers that are to be entered into the file, and "Unofficial" for draft documents and other communications with the PTO that are not for entry into the file of the application. This will expedite the processing of your papers.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [robert.warden@uspto.gov]. All Internet e-mail communications will be made of record in the application file. PTO employees will not communicate with applicant via internet e-mail where sensitive data will be exchanged

Application/Control Number: 09/727,910
Art Unit: 1744

Page 10

or where there exists a possibility that sensitive data could be identified unless there is of record express waiver of the confidentiality requirements under 35 U.S.C. 122 by the applicant. See the Interim Internet Usage Policy published by the Patent and Trademark Office Official Gazette on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist, whose telephone number is (703) 308-0661.

Sean E. Conley
Patent Examiner
AU 1744

SEC *Se*
December 4, 2003

Robert J. Warden, Sr.
ROBERT J. WARDEN, SR.
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700